Date:

Monday, 07/07/2008 4:23:13 PM

Ser:

Julie Lecocq

**Process Sheet** 

Customer

: CU-DAR001 Dart Helicopters Services

Job Number

: 40344

**Estimate Number** 

: 10290

P.O. Number

This Issue

: 07/07/2008

: NC

: // : 39923

Type

: MACHINED PARTS

S.O. No. :

**Part Number** 

Due Date

**Drawing Name** 

: D3121144

**Drawing Number** 

. D3121 REV E

: BRACKET ASSEMBLY

**Project Number Drawing Revision**  : N/A : E

Material

: 18/07/2008

Qty: 10 Um:

Each

Written By

Comment

Prsht Rev.

First Issue

**Previous Run** 

Checked & Approved By

: Est Rev:Pick:A 04.02.18

New issue KJ/DS

Est Rev:B ECN 1060 07-11-12 DD verified by:EC

**Additional Product** 

Job Number:



Seq. #:

**Machine Or Operation:** 

Description:

1.0

M174B1000X02000

17-4 SS Bar

3.8640 f(s)

Comment: Qty.:

0.3864 f(s)/Unit Total:

Material: 17-4-SS Bar per AMS 5604/5643

(M17-4-B1-000x02.000) Identify for D3121-114 Batch: MIOKS

BAND SAW



Comment: BAND SAW 1,250

BAND SAW

Cut blanks: (4:000" x 2.000") 4.425" long

3.0

2.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine D3121-114 as per Folio FA330 and Dwg D3121 Identify as D3121-114

2-Deburr

3-Scribe batch number

4.0

QC2



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

-space Ltd

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	В	y Date	e Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		

Part No:	PAR #:	Fault Category: _	NCR: Yes No	DQA:	Date: <u>රව් ර</u> ු	<u>}</u> / 08
•			QA: N/C C	losed:	Date:	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
		Description of NC	Corrective Action Section B		Verification	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	Approval QC Inspector	
08/08/01 3.0		Tap Beahe In part when Hand tapping was	Som	Remove to p and finish Tup in the part . Part	28/08/01	5	1	5.	
		done. ec. Tap wasn't good	GWW	55 oh now. S.B. 08/08/01		oslodos	,	delaples	
		enough. Trapum bip				·			
				*					
						1			

NOTE: Date & initial all entries

Monday, 07/07/2008 4:23:13 PM Date: User: " Julie Lecocq **Process Sheet** Drawing Name: BRACKET ASSEMBLY Customer: CU-DAR001 Dart Helicopters Services Job Number: 40344 Part Number: D3121144 Job Number: **Description:** Seq. #: **Machine Or Operation:** SECOND CHECK QC8 5.0 Comment: SECOND CHECK D312121 Bolt 6.0 2.0000 Each(s)/Unit Total: 20.0000 Each(s) Comment: Qty.: Pick: Description Batch Bolt <u>B4028</u>4 **Qty Part Number** 2 D3121-21 D3121241 7.0 **Bearing Assembly** Comment: Qty.: Total: 2.0000 Each(s)/Unit 20.0000 Each(s) Pick: Description Batch **Qty Part Number** 2 D3121-241 Bearing Ass SMALL & MEDIUM FAB RESOURCE 8.0 Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-143 as per Dwg D3121. 9.0 QC5 Comment: INSPECT WORK TO CURRENT STEP PACKAGING RESOURCE #1 PACKAGING <sup>2</sup> 10.0 Comment: PACKAGING RESOURCE #1 Identify and Stock Location: FINAL INSPECTION/W/O RELEASE 11.0 QC21 Comment: FINAL INSPECTION/W/O RELEASE

Job Completion

ME 08-08-07

# **Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES									
DATE STEP		PROCEDURE CHANGE By Date						Approval Chief Eng / Prod Mgr	Approval QC Inspector		
				,							
Part No	:	PAR #:	Fault Category:		NCR: Yes	No DQ	<b>A</b> :	Date:			

QA: N/C Closed: \_\_\_\_ Date: \_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section B		Verification	Annroyal	Τ		
DATE STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector			
·			·			·		,		
							·			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	40344
Description: Bracket	Part Number:	D3121-114
Inspection Dwg: D3121 Rev: E		Page 1 of 2

# FIRST ARTICLE INSPECTION CHECKLIST

X	First Article		Prototype
---	---------------	--	-----------

Drawing	Tolerance	Actual	Accept	Reject	Method of	Comments
Dimension	roicianoc	Dimension	7.000 61	110,000	Inspection	
0.080	+/-0.010	.082	/			
0.300	+/-0.010	302	/			
R0.375	+/-0.010	375	/			
1.54	+/-0.030	1540				
0.350	+/-0.010	:310				
R0.25	+/-0.030	.250	1			
Ø0.392	+0.002/-0.000	-392	1			
Ø0.201	+0.005/-0.000	- 197	/			
0.100	+/-0.010	.097				
2.540	+/-0.010	2.540				
1.590	+/-0.010	1.590	1			
0.160	+/-0.010	.160				
0.400	+/-0.010	.400	/			
1.220	+/-0.010	1.22	/			
1.600	+/-0.010	1.600	/		·	
3.80	+/-0.030	3.800	/			
1.800	+/-0.010	1,806	/		-	·
R0.50	+/-0.030	500	<i>/</i> ·			
0.130	+/-0.010	130	_/			
3.41	+/-0.030	3,410	~			
3.65	+/-0.030	3.610	/			
2.24	+/-0.030	2240	/		1	
45°	+/-0.1°	450				
R0.25	+/-0.030	.250				·
3.97	+/-0.030	3970				
R0.38	+/-0.030	-34	<u> </u>			
Ø0.392	+0.002/-0.000	, 392				·
Ø0.201	+0.005/-0.000	197				
0.268	+/-0.010	,268				
R0.260	+/-0.010	,200				· .
0.080	+/-0.010	,082				
0.300	+/-0.010	302				
0.381	+/-0.010	.38-1	_			
0.201	+/-0.010	,201				

DART AEROSPACE LTD	Work Order:	40344
Description: Bracket	Part Number:	D3121-114
Inspection Dwg: D3121 Rev: E		Page 2 of 2

	Х	_ First Arti	cle	Prot	otype	
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.580	+/-0.010	.580	/			
0.400	+/-0.010	,408	7			
100°	+/-0.1°	100 =	/			
0.032	+0.000/-0.010	.030	/			
				!		
			·	-		
				-,		·
		/				
•					·	
			·			
	. 0					
easured by:	V	Audited by	5.		Prototype App	roval: N/A

Date: 08/08/05 Date: 08/08/ Date: N/A

Rev	Date	Change	Revised by	Approved
Α	03.12.08	New Issue P/O D3121-144	KJ/RF	
В	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
С	06.06.14	Dwg Rev. updated	KJ/JLM	
D	08.01.16	Dimensions updated per Dwg Rev E	KJ/EC/DD,	
E	08.05.20	0.032 dimension was 0.32	KJ/DD A	



**(** 

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DESIGN DRAWN BY		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHEC	KED	APPROVED	DRAWING NO. REV. E
	#		D3121 SHEET 1 OF 10
DATE			TITLE SCALE
07.1	1.07		BRACKET ASSEMBLY 1:2
Α		02.04.15	NEW ISSUE
В		03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
С		04.02.17	ADD CLEARANCE; USE -241 BEARING
D		06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
E		07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)

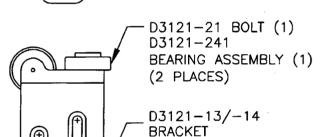


D3121-21 BOLT (1) D3121-241 BEARING ASSEMBLY (1)

D3121-11 BRACKET

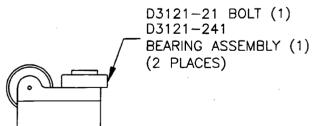
# D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



## D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-15/-16 BRACKET

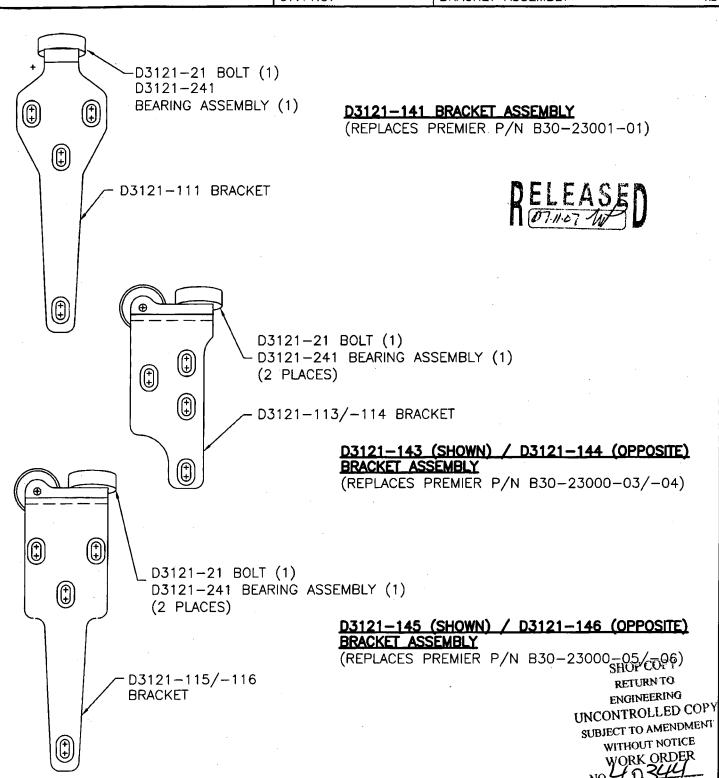
# D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-35/-

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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

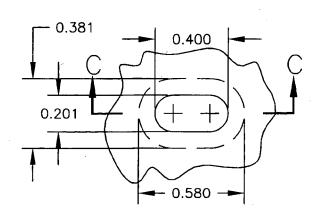


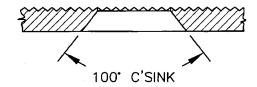
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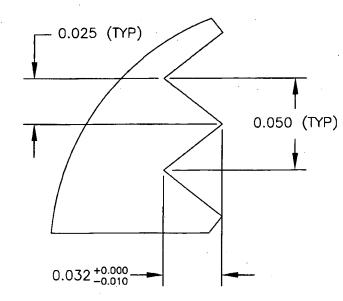
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	91		D3121	SHEET 3 OF 10
i	DATE	•	TITLE	SCALE
	07.11.07		BRACKET ASSEMBLY	1:1

SLOT DETAIL SCALE 2:1 VIEW ROTATED





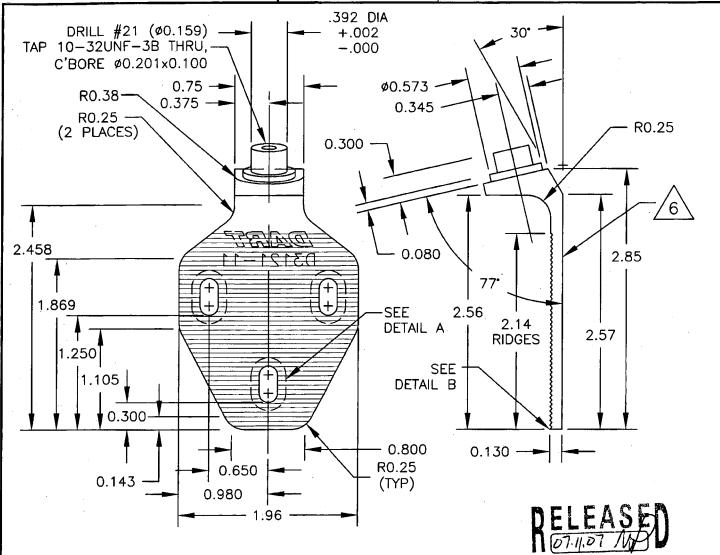
<u>DETAIL B:</u> RIDGE DETAIL PARTIAL SECTION SCALE 1:20



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#	<del>-   </del>	D3121	SHEET 4 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1



#### **D3121-11 BRACKET**

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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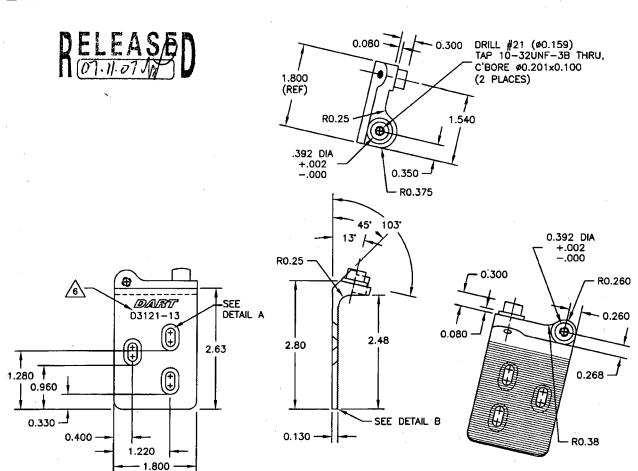
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi

MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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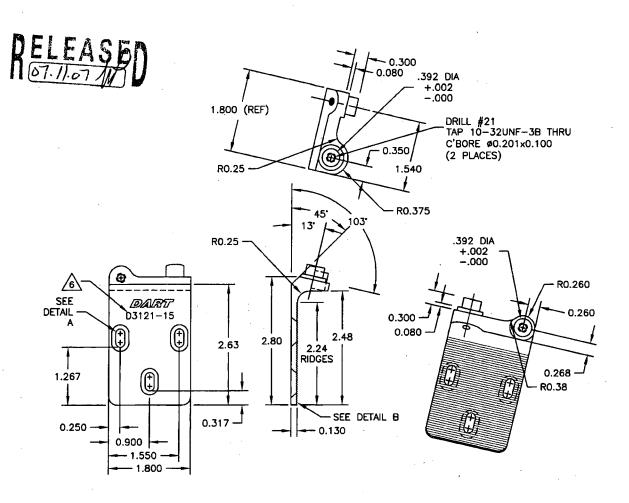
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



## D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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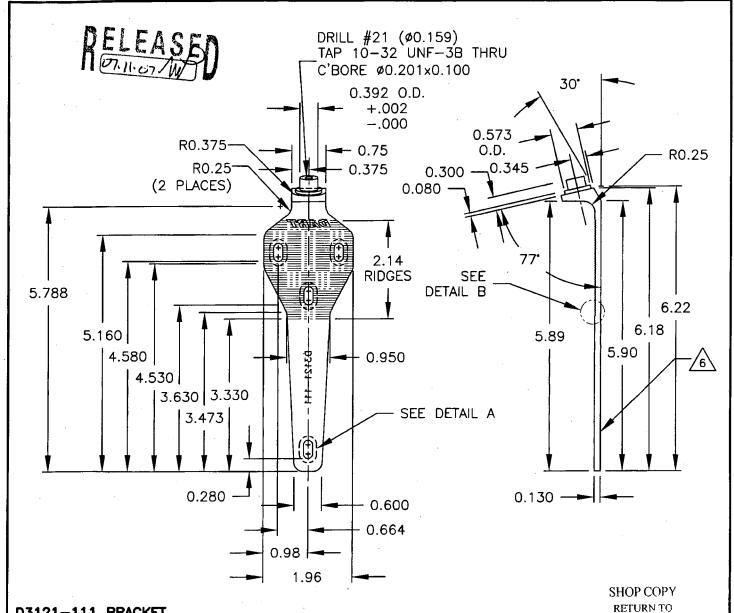
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#		D3121	SHEET 7 OF 10
DATE		TITLE	SCALE
07.11.07	·	BRACKET ASSEMBLY	1:2



#### D3121-111\_BRACKET

1) REPLACES PREMIER P/N B32-23001-11

2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi MIN YIELD TENSILE = 100 ksi

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED

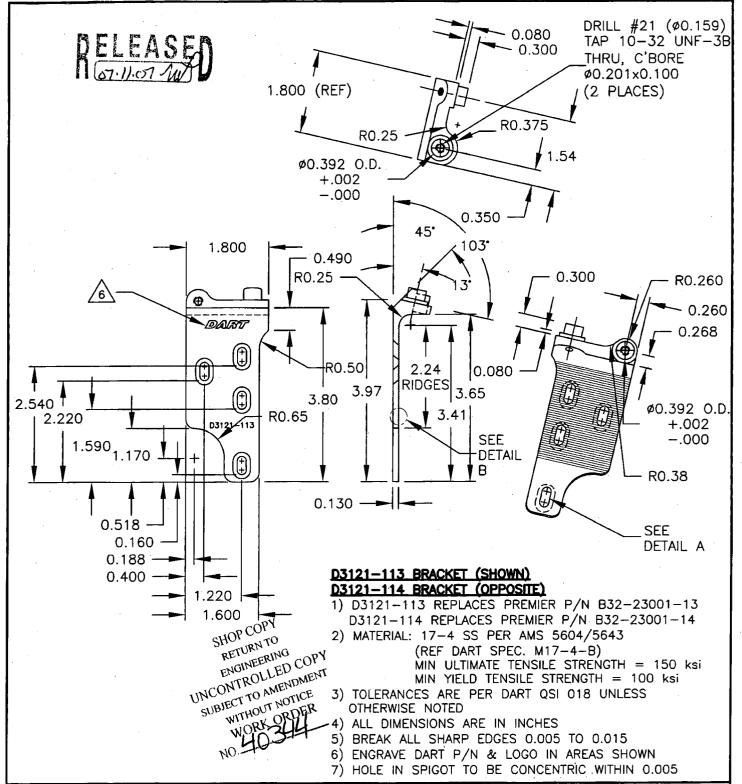
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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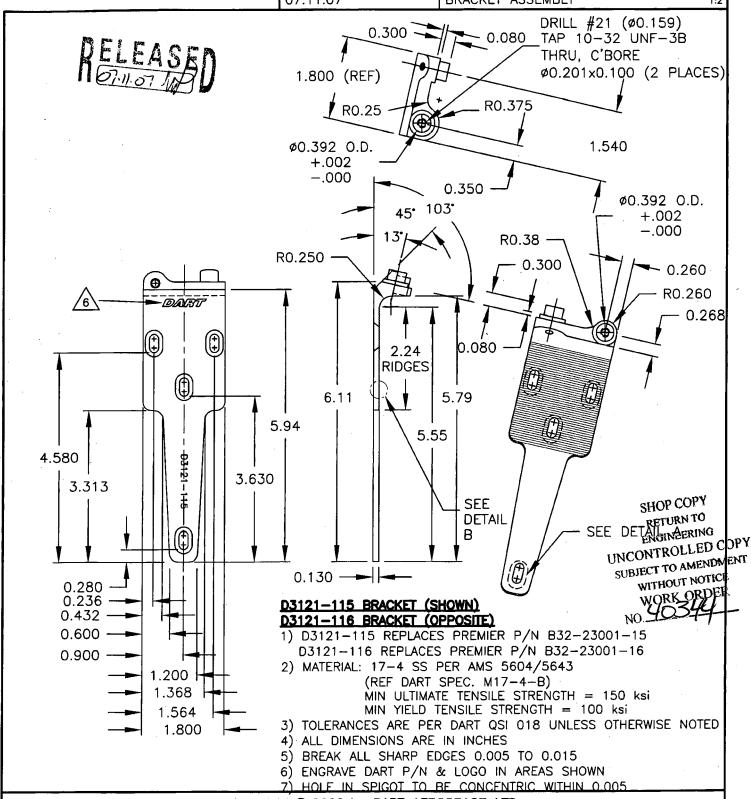
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#	-#	D3121	SHEET 8 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



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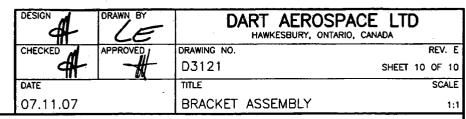


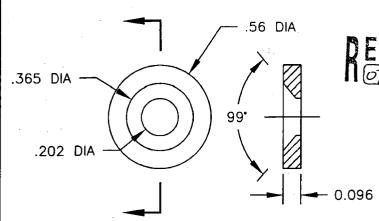
DESIGN A DRAWN BY		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED.	DRAWING NO. D3121	REV. E SHEET 9 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



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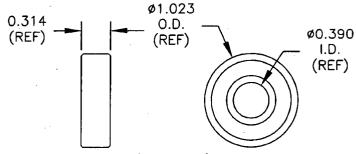






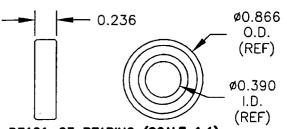
### D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



#### D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM 1) MATERIAL: DELRIN ROD, Ø1.25 FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



# D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z

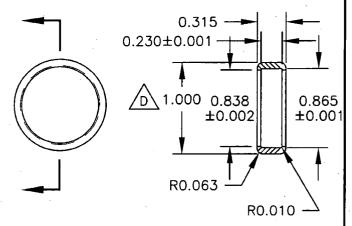
OR KML P/N 6900-ZZ

ALL DIMENSIONS ARE IN INCHES

# 0.375 -TAP 10-32 UNF-3A 0.080 0.050 TO 0.060

### D3121-21 BOLT (SCALE 1:1)

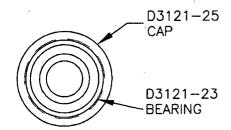
- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC, M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



#### D3121-25 CAP (SCALE 1:1)

- - (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS
- SHOP COPY OTHERWISE NOTED SHUR (3) ALL DIMENSIONS ARE IN INCHES

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D3121-241 BEARING ASSEBLY (SCALE 1:1)

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